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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,430	03/07/2002	Shmuel Cabilly	P-3694-US	9454
27130	7590	12/21/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			BARTON, JEFFREY THOMAS	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/091,430

Applicant(s)

CABILLY ET AL.

Examiner

Jeffrey T. Barton

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 73-76, 78-82 and 93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 73-76, 78-82 and 93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed on 11 October 2005 does not place the application in condition for allowance.

***Status of Rejections Pending Since the Office Action of 25 January 2005***

2. The rejections of claims 77 and 83-92 are obviated due to cancellation of the claims.
3. The rejection of claims 73-76, 80, and 82 under 35 U.S.C. §102(b) as anticipated by Cabilly et al is maintained.
4. The rejection of claims 78 and 79 under 35 U.S.C. §103(a) as unpatentable over Cabilly et al in view of Monthony et al is withdrawn. Upon closer review of the Cabilly et al reference, it was found that it in fact teaches the relevant material of these claims, and they are now properly rejected under 35 U.S.C. §102. The Examiner apologizes for this previous oversight.
5. The rejection of claim 81 under 35 U.S.C. §103(a) as unpatentable over Cabilly et al is maintained.

***Claim Rejections - 35 USC § 102***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 73-76, 78-80, 82, and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Cabilly et al.

Regarding claim 73, Cabilly et al disclose an electrophoresis apparatus and methods for its use, comprising: a body of separating gel (Figure 4, gel 18); a cathode electrically coupled to a first end of the gel (Figure 4, cathode 26); an anode comprising an electrochemically ionizable metal (Figure 4, anode 24; Page 8, lines 13-18), said anode being disposed in a semi-solid ion reservoir containing a buffer (e.g. Figure 6 - anode 23 is partially covered by matrix 20; Page 14, lines 4-20 - a gel immersed in buffer solution can be characterized as "semi-solid"), said semi-solid ion reservoir being disposed at a second end of the gel body (Figure 4) and electrically coupled to the gel body (Page 12, lines 11-15), said ion reservoir and buffer being configured for retarding the migration of ions of the electrochemically ionizable metal in the gel body during electrophoresis. (Page 8, lines 19-21; Page 12, lines 22-36) They also disclose the use of a buffer comprising tris and glycine, which are an amine and a zwitterion, respectively. (Page 24, lines 22-27)

Regarding claim 74, Cabilly et al disclose the electrodes, gel body, and ion reservoirs being disposed in a substantially closed cassette. (Figures 3 and 4)

Regarding claims 75 and 76, Cabilly et al disclose copper electrodes. (Page 8, lines 17-18 and 27-29)

Regarding claims 78 and 79, the pKas of tris and glycine differ by about 1.5.

Regarding claim 80, Cabilly et al disclose polyacrylamide and agarose gel bodies. (Page 11, lines 22-24)

Regarding claim 82, Cabilly et al disclose the gel body comprising sample wells.  
(Page 13, lines 4-6)

Regarding claim 93, glycine comprises a carboxyl group.

### ***Claim Rejections - 35 USC § 103***

8. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cabilly et al.

Cabilly et al disclose devices as described above in addressing claim 73. Additionally, Cabilly et al disclose successfully using their system for electrophoretic separation. (Pages 25, lines 19-27)

Cabilly et al do not explicitly disclose the ion migration not exceeding the limits of the ion reservoir.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a sample, buffer system, concentrations, voltages, etc. such that the capacity of the ion reservoir was sufficient for the required analyte migration. This would be necessary for successful system operation.

### ***Response to Arguments***

9. Applicant's arguments filed 11 October 2005 have been fully considered but they are not persuasive.

Regarding the buffer that comprises an amine and a Zwitter ion, Applicant argues that Cabilly et al do not teach this, and also argue that the previous rejection under 35

U.S.C. §103(a) had no proper suggestion or motivation. As pointed out in the revised rejection above, Cabilly et al in fact teach the use of a Tris-Glycine buffer, which meets the limitations of claim 73 as amended. The rejection under 35 U.S.C. §103 is therefore withdrawn.

The remainder of Applicant's arguments is largely directed to the inhibition of metal ion migration by the buffer, which Applicant argues is an unexpected result. The Examiner points out that objective evidence of unexpected results should be presented and supported in an appropriate affidavit or declaration, in order to be of probative value. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). The arguments of counsel cannot take the place of evidence in the record. See MPEP §716.01(c).

Furthermore, the instant claims are directed to an apparatus for conducting electrophoresis, and the limitation in question, i.e. "wherein said buffer inhibits the migration of ions of said electrochemically ionizable metal into said body of separating gel" does not further limit any structure associated with the apparatus. Cabilly et al clearly meets all structural limitations. This limitation corresponds simply to an intended effect caused within the apparatus during its use, i.e. an intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, Cabilly et al in fact use

one of the claimed buffers (Tris-Glycine) specifically, so the claimed effect of the buffer should in fact be inherent, even if not specifically disclosed.

Therefore, although the inhibition of metal ion migration may not have been taught by the prior art of record, all structural limitations of the apparatus claims are anticipated by Cabilly et al, and the reference therefore anticipates the claims.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey Barton, whose telephone number is (571) 272-1307. The examiner can normally be reached Monday-Friday from 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached at (571) 272-1342. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).


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JTB

14 December 2005



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